

**LPDES PERMIT NO. LA0120529, AI No. 126578**

**LPDES FACT SHEET and RATIONALE**

FOR THE DRAFT MODIFIED LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM  
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

- I. Company/Facility Name:** Shintech Louisiana, LLC  
Plaquemine PVC Plant  
P.O. Box 358  
Addis, Louisiana 70710
- II. Issuing Office:** Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services  
Post Office Box 4313  
Baton Rouge, Louisiana 70821-4313
- III. Prepared By:** Jenniffer Sheppard  
Water Permits Division  
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- Date Prepared:** March 31, 2007

**IV. Permit Action/Status:**

**A. Reason For Permit Action:**

Proposed modification of an existing Louisiana Pollutant Discharge Elimination System (LPDES) permit for a proposed facility for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46\*.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX revised as of June 20, 1997.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.4901, 4903, and 2301.F.

- B. NPDES permit -** NPDES permit effective date: N/A  
NPDES permit expiration date: N/A  
  
EPA has not retained enforcement authority.
- C. LPDES permit -** LPDES permit effective date: January 1, 2007  
LPDES permit expiration date: December 31, 2011
- D. Modification Application received on March 20, 2007**

**V. Facility Information:**

**A. Location**

at 26270 Hwy 405 South on the west bank of the Mississippi River, near Plaquemine with front gate coordinates of latitude 30°16'24" North and longitude 91° 10'24" West, Iberville Parish

**B. Applicant Activity**

According to the application, Shintech Louisiana, LLC, is in the process of constructing a 1.3 billion pound per year PVC plant which will manufacture polyvinyl chloride, chloride, caustic soda, 1,2-dichloroethane [ethylene dichloride (EDC)], and vinyl chloride monomer(VCM). Process Units will include a Chlor-Alkali Unit, a VCM Unit, and a PVC Unit. The facility obtained an LPDES permit for wastewater discharges, effective on January 1, 2007.

**C. Technology Basis - (40 CFR Parts 401 and 405-471 have been adopted by reference at LAC 33:IX.4903)**

Guideline

Organic Chemicals, Plastics,  
and Synthetic Fibers  
Process Flow - 3.0556

Reference

40 CFR 414  
Subparts D, F, and I

Inorganic Chemicals-  
Chlor Alkali

40 CFR 415  
Subpart F

Daily Production -  
Chlorine - 2,970 Klbs/day  
Caustic Soda - 3,390 Klbs/day

Other sources of technology based limits:

LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Best Professional Judgement

Light Commercial General Permit, LAG480000

**D. Fee Rate -**

1. Fee Rating Facility Type: Major
2. Complexity Type: VI
3. Wastewater Type: II
4. SIC code: 2869, 2812, and 2821

**E. Continuous Facility Effluent Flow - 8.362 MGD.**

## **VI. Receiving Waters**

### **Bayou La Butte (Outfall 003 - emergency use only)**

1. River Basin: Terrebonne River, Segment No. 120201

2. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

According to Shintech, emergency "overflow" conditions are those that would exist under and immediately following rainfall conditions of abnormally high intensity and/or extended duration that result in the accumulation of non-process storm water runoff at a rate greater than the facility's capacity to pump the excess storm water via Outfall 003, which discharges to the Mississippi River. Under such conditions, it is necessary to allow the gravity discharge of the excess non-process area storm water to Bayou La Butte to maintain adequate levee freeboard and protect the integrity of the levees around the non-process area storm water retention basins at the Plaquemine Plant. Examples of weather conditions that could result in such rainfall events are tropical storms/hurricanes and other high intensity/extended duration rainstorms that may occur in south Louisiana.

### **Mississippi River (Outfalls 001, 002, 003 Phases 1 and 2, and 004)**

1. TSS (15%), mg/L: 32

2. Average Hardness, mg/L CaCO<sub>3</sub>: 153

3. Critical Flow, cfs: 73,563.6\*

4. Mixing Zone Fraction: 0.33

5. Harmonic Mean Flow, cfs: 190,055.3\*

6. River Basin: Mississippi River, Segment No. 070301

7. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply.

Information based on the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11;/Recommendation(s) from the Engineering Section. Hardness and 15% TSS data come from monitoring station 0319 at the Plaquemine ferry landing, midstream of the Mississippi River east of Plaquemine listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc. This data is also presented in a memorandum dated March 31, 2005, from Robert Lott to Jenniffer Sheppard.

\* Both the critical flow and the harmonic mean of the Mississippi River have been divided between Georgia Gulf (LA0007129, AI2455) and Shintech Plaquemine (LA0120529, AI126578) on a flow weighted basis. This was done since Shintech and Georgia Gulf have similar waste streams and a relatively short distance between their discharge points. Georgia Gulf will receive a reduced critical flow and harmonic mean upon their next permit issuance.

**VII. Nature of Permit Modification:**

- A. Outfall 003 - a new Phase 1 monitoring schedule has been incorporated that would become effective during the construction phase. The following language outlines the schedule in which this phase will be used:

*"during the period beginning on the effective date of the permit modification and lasting upon plant startup and initial commencement of discharge the permittee is authorized to discharge from:"*

- B. Outfall 003 (Phase 1) - the outfall description has changed and now reads:

Outfall 003, the intermittent discharge stormwater from construction activities and hydrostatic test wastewater from new piping , vessels, tanks, etc. during the construction period.

- C. Outfall 003 (Phase 1) - footnote (\*1) has been deleted since this schedule will become effective upon effective date of permit modification.
- D. Outfall 003 (Phase 2) - the original Outfall 003 description has been converted to Phase 2 and will remain unchanged. The outfall limits and monitoring frequency will also remain unchanged.
- E. Outfall 003 (Phase 2) - footnotes have been renumbered.
- F. Outfall 003 (Phase 1 and 2) - a new footnote has been incorporated to define "Plant startup and initial commencement of discharge." This footnote reads:

Plant startup and initial commencement of discharge shall mean the commencement of discharge of associated industrial wastewaters, including the discharge during the break-in period.

- G. Part II.K has been updated to include Outfall 003 Phase 1 and 2 schedules and the definition of plant startup and initial commencement of discharge for all outfalls.

**DEQ CHANGES**

- H. Internal Outfall 301 - The STORET Code for Total Residual Chlorine has been correctly identified as 50060 (this correction made previously addressed in a letter to Shintech dated June 30, 2006).
- I. The DMR submittal schedule in Part II.R (Page 12 and 13 of 21) has been revised to clarify that DMRs must be **postmarked** by the 15th of the month.
- J. All Discharge Monitoring Reports (DMRs) are now being scanned into the LDEQ's Electronic Document Management System (EDMS) and copies to the Regional Office are no longer necessary. Therefore, Part II, Section R language (Page 13 of 21) has been modified to delete the requirement to submit duplicate copies of the DMRs to the Regional Office.

**VIII. Modified Outfall Information:**

Outfall 003 - Phase 1

- A. Type of wastewater - the intermittent discharge stormwater from construction activities and hydrostatic test wastewater from new piping , vessels, tanks, etc. during the construction period.
- B. Location - Discharge to the Mississippi River at Latitude 30°16'33", Longitude 91°10'15".
- C. Treatment - None
- D. Flow - Intermittent
- E. Receiving waters - Mississippi River or Bayou La Butte (emergency overflow only)
- F. Basin and segment - Mississippi River Basin, Segment 070301 or to the Terrebonne Basin, Subsegment 120201 (emergency overflow situation only)

Outfall 003 - Phase 2

- A. Type of wastewater - the discharge of non-process area stormwater; and miscellaneous de minimis utility discharges from general facility washwater, steam trap condensate, safety shower and eye wash station water, fire fighting system test water, pump bearing cooling water, air conditioning condensate, and previously monitored hydrostatic test water from Outfall 004.
- B. Location - Discharge to the Mississippi River at Latitude 30°16'33", Longitude 91°10'15".
- C. Treatment - None
- D. Flow - Intermittent
- E. Receiving waters - Mississippi River or Bayou La Butte (emergency overflow only)
- F. Basin and segment - Mississippi River Basin, Segment 070301 or to the Terrebonne Basin, Subsegment 120201 (emergency overflow situation only)

**IX. Permit Limit Rationale: Outfall 003 Phase 1**

**Technology Basis**

\*Outfall 003 - the intermittent discharge stormwater from construction activities and hydrostatic test wastewater from new piping , vessels, tanks, etc. during the construction period.

Uncontaminated or low potential contaminated stormwater and hydrostatic test wastewater from new piping , vessels, tanks, etc. during the construction period discharged through discrete outfall(s) not associated with process wastewater shall receive the following BPJ limitations in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6) and Best Professional Judgment.

<b><u>PARAMETER</u></b>	<b><u>MONTHLY AVERAGE (MG/L)</u></b>	<b><u>DAILY MAXIMUM (MG/L)</u></b>
Flow (MGD)	Report	Report
TOC	---	50
Oil & Grease	---	15
pH (standard units)	6.0	9.0

#### **Site-Specific Consideration(s)**

The PVC plant site is approximately 541 acres and includes three separate manufacturing units and a utilities unit. Given that there are massive amounts of piping and vessels within each of the manufacturing units in addition to all the intake and discharge structures for the plant and all the piping and vessels are new, it is not feasible for Shintech to perform laboratory analytical testing on the hydrostatic pressure test effluent from each individual item being tested. It is at this point of the fabrication of the numerous piping systems and process and storage vessels throughout the Plaquemine PVC Plant construction site that Shintech's contractors must begin numerous hydrostatic pressure testing events at numerous locations throughout the 541-acre site. The hydrostatic pressure testing to be conducted during construction (under Outfall 003 Phase 1 only) will be performed on new piping, vessels, etc. Therefore, it has been deemed appropriate to allow commingling of stormwater and hydrostatic test water to be discharged through this outfall under the conditions/limitations outlined below.

Flow - This draft permit requires the monthly average flow and daily maximum flow. This requirement is consistent with LAC 33:IX.2707.I.1.b/40 CFR 122.44 (I)(1)(ii).

TOC, Oil & Grease, and pH - established based on similarly permitted discharges, current LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6), and Best Professional Judgement (BPJ).

According to Shintech, emergency "overflow" conditions are those that would exist under and immediately following rainfall conditions of abnormally high intensity and/or extended duration that result in the accumulation of non-process storm water runoff at a rate greater than the facility's capacity to pump the excess storm water via Outfall 003, which discharges to the Mississippi River. Under such conditions, it is necessary to allow the gravity discharge of the excess non-process area storm water to Bayou La Butte to maintain adequate levee freeboard and protect the integrity of the levees around the non-process area storm water retention basins at the Plaquemine Plant. Examples of weather conditions that could result in such rainfall events are tropical storms/hurricanes and other high intensity/extended duration rainstorms that may occur in south Louisiana.

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. The Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) to be prepared by six (6)

months after plant startup and commencement of discharge under the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2522.B.14 [40 CFR 122.26(b)(14)].

#### **Water Quality Basis**

No additional water quality requirements have been added as a result of this permit modification.

#### **X. Monitoring Frequencies: Outfall 003 Phase 1**

\*Outfall 003 - the intermittent discharge stormwater from construction activities and hydrostatic test wastewater from new piping , vessels, tanks, etc. during the construction period.

*Flow, TOC, Oil & Grease, and pH - a monitoring frequency has been established at 1/quarter for all parameters. These frequencies are consistent with those established for Outfall 003 in the current LPDES permit, effective on January 1, 2007.*

<b>PARAMETER</b>	<b>MONITORING FREQUENCY</b>
Flow	1/quarter
TOC	1/quarter
Oil & Grease	1/quarter
pH	1/quarter

#### **XI. COMPLIANCE HISTORY/DMR REVIEW:**

<b>DATE</b>	<b>OUTFALL</b>	<b>PARAMETER</b>	<b>REPORTED VALUE</b>	<b>PERMITTED VALUE</b>
N/A	N/A	N/A	N/A	N/A

NONE, PROPOSED FACILITY

**XII. TMDL Waterbody**

**Outfalls 003 Phases 1 and 2**

The discharges from Outfall 003 including stormwater from construction activities and hydrostatic test wastewater from new piping , vessels, tanks, etc. during the construction period (Phase 1) and non-process area stormwater; and miscellaneous de minimis utility discharges from general facility washwater, steam trap condensate, safety shower and eye wash station water, fire fighting system test water, pump bearing cooling water, air conditioning condensate, and previously monitored hydrostatic test water from Outfall 004 (Phase 2) are to Mississippi River, Segment No. 070301. The Mississippi River is not currently listed on the 2004 Integrated Report for any impairments.

**Outfall 003 Phases 1 and 2 (emergency overflow only)**

The discharges from Outfall 003 will be infrequent due to this wastewater being diverted as an emergency overflow only. The discharges include stormwater from construction activities and hydrostatic test wastewater from new piping , vessels, tanks, etc. during the construction period (Phase 1) and non-process area stormwater; and miscellaneous de minimis utility discharges from general facility washwater, steam trap condensate, safety shower and eye wash station water, fire fighting system test water, pump bearing cooling water, air conditioning condensate, and previously monitored hydrostatic test water from Outfall 004 (Phase 2) are to Bayou LaButte, Subsegment 120201. Bayou LaButte is currently listed on the 2004 Integrated Report as being impaired with organic enrichment/low DO, pathogen indicators, sulfates, nitrate/nitrite, and phosphorus.

**Organic Enrichment/Low DO, Pathogen Indicators, Sulfates, Nitrate/Nitrite and Phosphorus**

Due to the type and infrequent nature of this discharge, it is not reasonably expected to further impair Bayou LaButte for organic enrichment/low DO, pathogen indicators, sulfates, nitrate/nitrite, and phosphorus.

Monitoring frequencies for water quality based limited parameters are established in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001.

**Site-Specific Consideration(s)**

None

**XIII. "IT" Questions - Applicant's Responses**

IT Questions were addressed as part of the initial LPDES permit, effective January 1, 2007. Please refer to the complete environmental assessment is located in a document titled "Environmental Assessment Statement" (EAS) submitted to LDEQ on March 24, 2005. The EAS contains more detailed information relative to the questions below and was used to aide in the development of the initial draft permit, and have been extended to include changes made through this modification.

**XIV. Endangered Species:**

The receiving waterbody, Subsegment 070301 of the Mississippi River Basin, has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon, which are listed as an endangered species. LDEQ has not submitted this draft modified permit to the FWS for review in accordance with a letter dated 9/29/06 from Watson (FWS) to Brown (LDEQ). As set forth in the



Memorandum of Understanding between the LDEQ and the FWS, and based on information provided by the FWS, LDEQ has determined that the issuance of the LPDES permit modification is not likely to have an adverse effect upon the Pallid Sturgeon. Effluent limitations are established in the permit to ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. The more stringent of technology and water quality based limits (as applicable) have been applied to ensure maximum protection of the receiving water.

Please note that the initial LPDES permit, effective on January 1, 2007, was submitted to FWS in accordance with the Memorandum of Understanding between the LDEQ and the FWS. It was determined that the issuance of the LPDES permit was not likely to have an adverse effect upon the Pallid Sturgeon. Therefore, since this permit modification does not change the type, volume, or frequency of the actual discharge from this facility, the draft modification document was not submitted for re-evaluation.

#### **XV. Historic Sites:**

The discharge is from a proposed facility at an existing permitted facility location, which does not include an expansion on undisturbed soils beyond what has already been addressed in the LPDES permit, effective on January 1, 2007. Therefore, there should be no potential effect additional sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

Please note that Shintech consulted with the State Historic Preservation Officer (SHPO) prior to the initial LPDES wastewater permit application submittal to determine whether construction-related activities could potentially affect sites or properties on or eligible for listing on the National Register of Historic Places. SHPO's response letter, dated January 25, 2005 (submitted as Appendix D of the Environmental Assessment Submitted to LDEQ on March 24, 2005), stated that the facility has the potential to effect numerous cultural resources and determined that Shintech be required to conduct a Phase I cultural resource survey of the area to address potential impacts.

LDEQ also consulted with SHPO via letter on March 31, 2005, to notify of new construction associated with the LPDES application. SHPO's response letter to LDEQ, dated April 28, 2005, referenced the January 25, 2005 letter to Shintech and the recommendation for Shintech to complete a Phase I cultural resource survey of the area to address potential impacts and several additional letters of communication between all parties involved. The Phase I survey was completed and the findings were presented to SHPO in a letter dated March 30, 2005. A SHPO response was sent to the company in a letter dated April 26, 2005, indicating the need for Shintech to move into Phase II National Resource Historic Places (NRHP) testing on two of the 19 archaeological sites identified in the Phase I survey.

A Memorandum of Agreement (MOA) was signed among the U.S. Army Corps of Engineers, New Orleans District, the Louisiana State Historic Preservation Officer, the Chitimacha Tribe of Louisiana, The LDEQ, and Shintech Louisiana, LLC regarding Phase III data recovery of archaeological sites 16IV94 and 16IV109, Iberville Parish, Louisiana.

**XVI. Tentative Determination:**

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to modify the permit for the discharge described in the application.

**XVII. Variances:**

No requests for variances have been received by this Office.

**XVIII. Public Notices:**

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the factsheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List